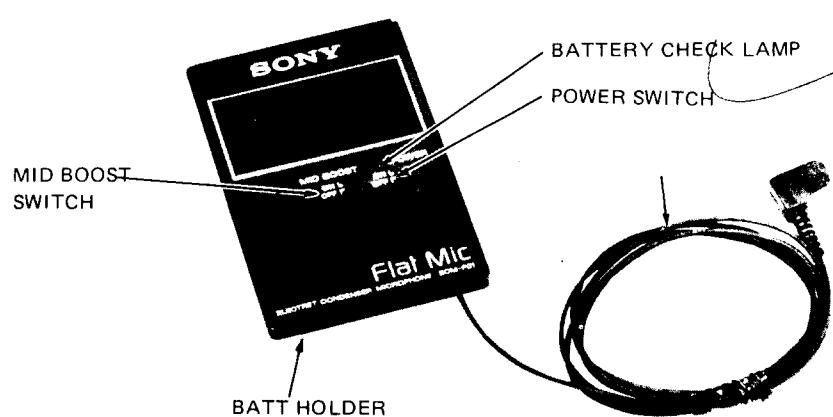


SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model



SPECIFICATIONS

Type:	Electret condenser microphone
Battery:	IEC designation LR54 (U.C.C. No. 189)
Dimensions:	54 x 85 x 4.5 mm (w/h/d) ($2\frac{1}{4}$ x $3\frac{3}{8}$ x $\frac{3}{16}$ inches)
Weight:	Approx. 27 g (1 oz) including battery
Microphone cable:	$\phi 1.5$ mm x 1 m long ($\phi \frac{1}{16}$ x 3 ft. 3 in.)
Frequency response:	50 – 20,000 Hz (MID BOOST OFF) 200 – 10,000 Hz (MID BOOST ON)
Directivity:	Omni-directional
Output impedance:	$1k\Omega \pm 20\%$, unbalanced
Output level (deviation ± 3 dB):	Open circuit voltage *1 – 68 dB (MID BOOST OFF) – 58 dB (MID BOOST ON) *1 0dB = 1V/1 μ bar, 1,000 Hz Effective output level *2 – 54 dBm (MID BOOST OFF) – 44 dBm (MID BOOST ON) *2 0dBm = 1 mW/10 μ bar, 1,000 Hz
Signal-to-noise ratio:	More than 40 dB (1,000 Hz, 1 μ bar)
Power requirements:	Normal operating voltage: 1.5 V Minimum operating voltage: Approx. 0.9 V Battery life Approx. 200 hours (MID BOOST OFF) Approx. 80 hours (MID BOOST ON) with Sony Alkaline-manganese battery LR1130
Maximum sound pressure input level (at 1,000Hz, 1% distortion):	More than 100 dB SPL
Temperature range:	0°C–60°C for operation

FEATURES

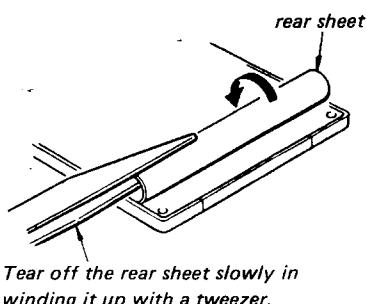
- Card-size flat microphone.
- Sony's Boundary Effect* system for picking up the speaker's voices clearly.
- Mid boost switch for picking up the speaker's voices clearly in a conference room.
- LED battery check lamp.

* The Sony Boundary Effect system

Setting the microphone unit close to a solid surface such as a desk raises the frequency response of direct sound about 6 dB, and the difference between the frequency response of direct sound and reflected sound is approximately 3 dB. This system makes voices clearer than surrounding noise, so that clear sound can be picked up.

REAR SHEET REMOVAL

Note: Be sure to place a new rear sheet once it was removed.



ELECTRET CONDENSER MICROPHONE

SONY®



Replacing chip components

All chip components should be connected and disconnected, using a tapered soldering iron [temperature of the iron tip: less than 280°C (536°F)], a pair of tweezers and braided wire.

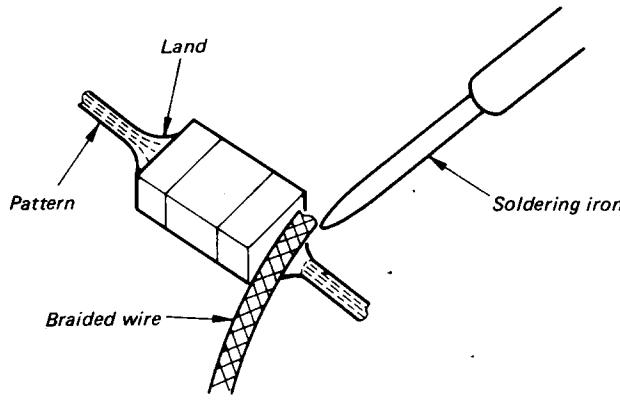
Precautions for replacement

1. Do not disconnect the chip component forcefully. Otherwise, the pattern may peel off.
2. Never re-use a disconnected chip component. Dispose of all old chip components.
3. To protect the chip component, heating time for attaching the component should be within 3 seconds.

○ Removing chip components

(1) Removing solder at electrode

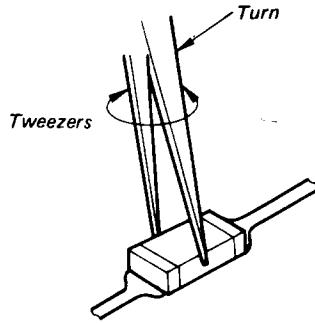
Remove the solder at the electrode, using a thin braided wire. Do not remove the solder of the part (chip component) attached adjacent to the electrode.



(2) Disconnecting chip components

Turn the tweezers with the soldering iron alternately applied to both electrodes, and the chip component will be disconnected. Take careful precautions while disconnecting, because if the chip component is forcefully removed the land may peel off.

Never re-use a disconnected chip component.



(3) Smoothing the soldered surface

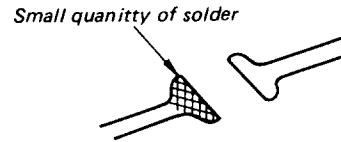
After disconnecting the chip component, remove the solder by using a braided wire to smooth the land surface.

○ Connecting chip components

The value of chip components is not displayed on the main body. Take due precautions to avoid mixing new chip components with other ones.

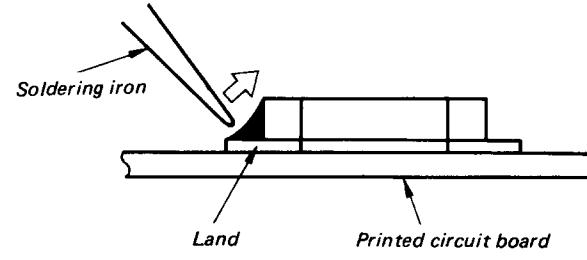
(1) Applying solder to land on one side

Apply a thin layer of solder to the land on one side where the chip component is to be connected. Too much solder may cause bridging.



(2) Speedy soldering

Hold the chip component at the desired position, using tweezers, and apply the soldering iron in the arrow-marked direction. To protect the chip component, heating time should be within 3 seconds.

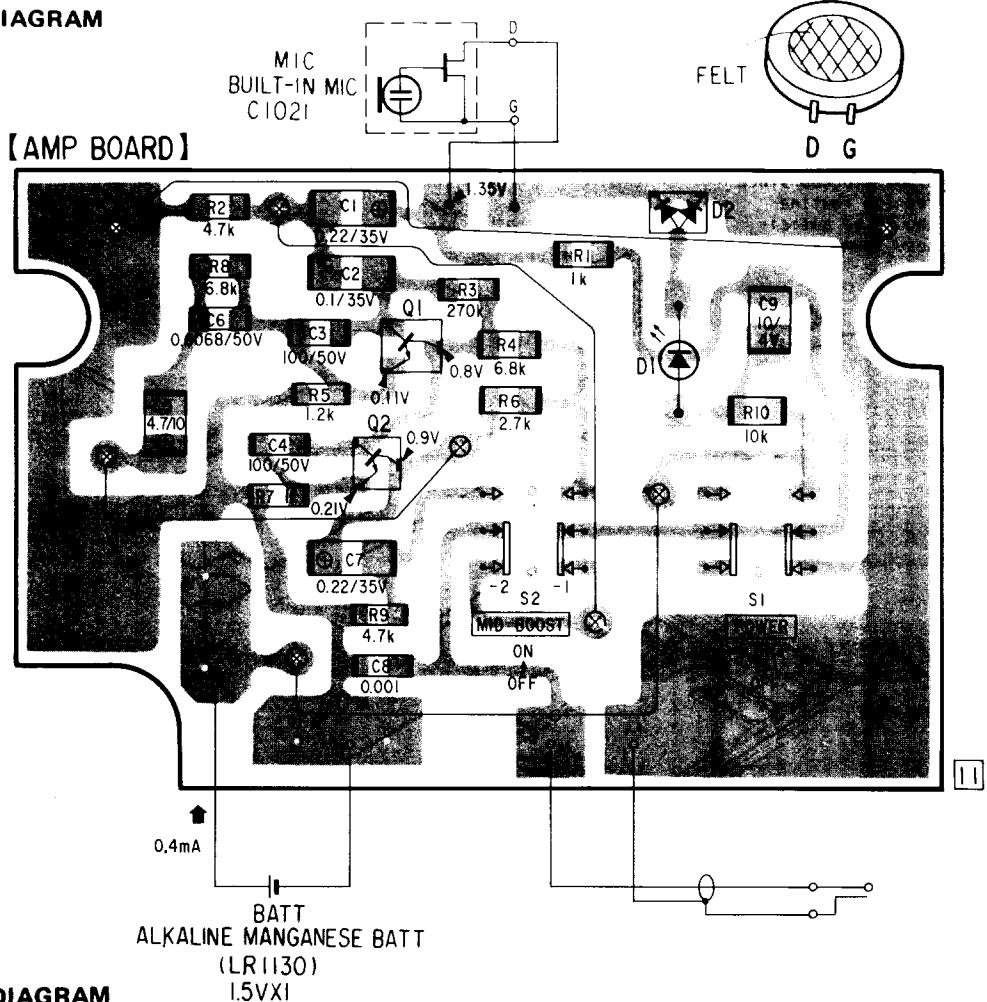


(3) Speedy soldering of electrode on the other side

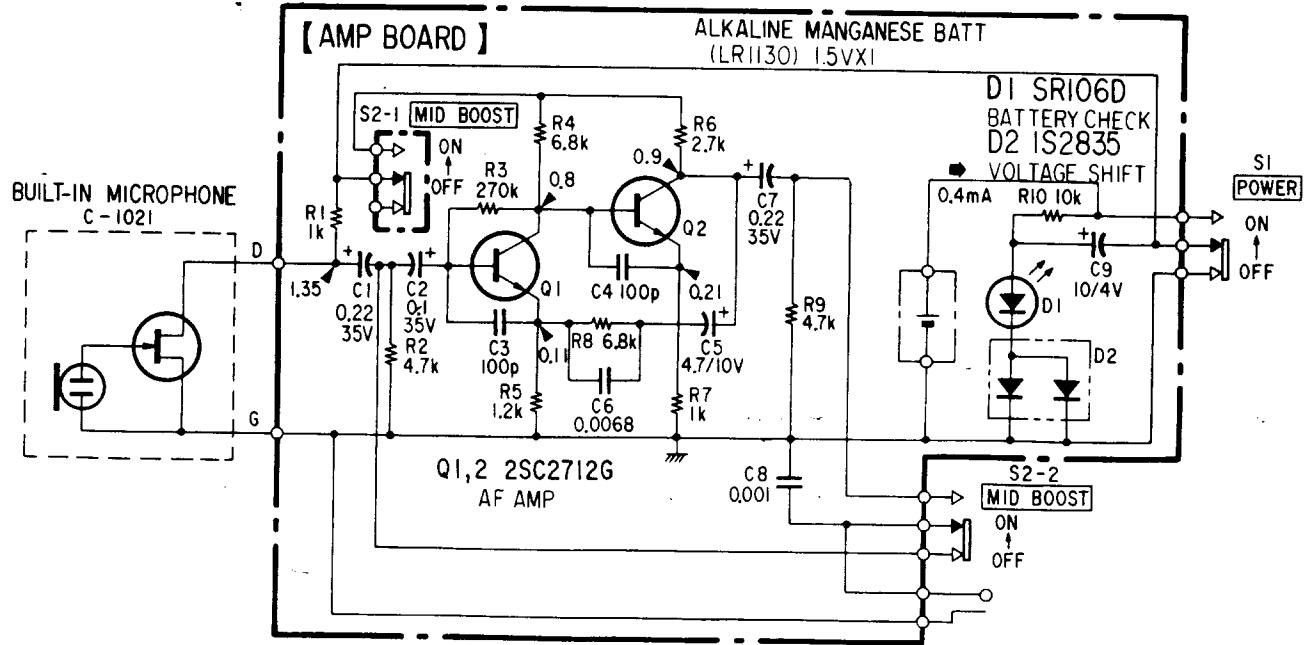
Solder the electrode on the other side in the same way as in (2) above.

C-1021

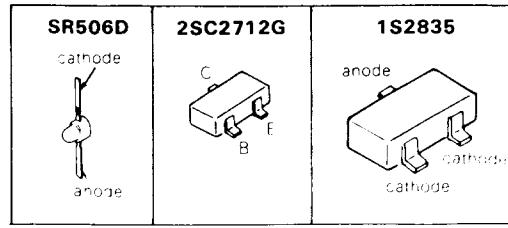
MOUNTING DIAGRAM



SCHEMATIC DIAGRAM



Semiconductor Lead Layouts



EXPLODED VIEWS

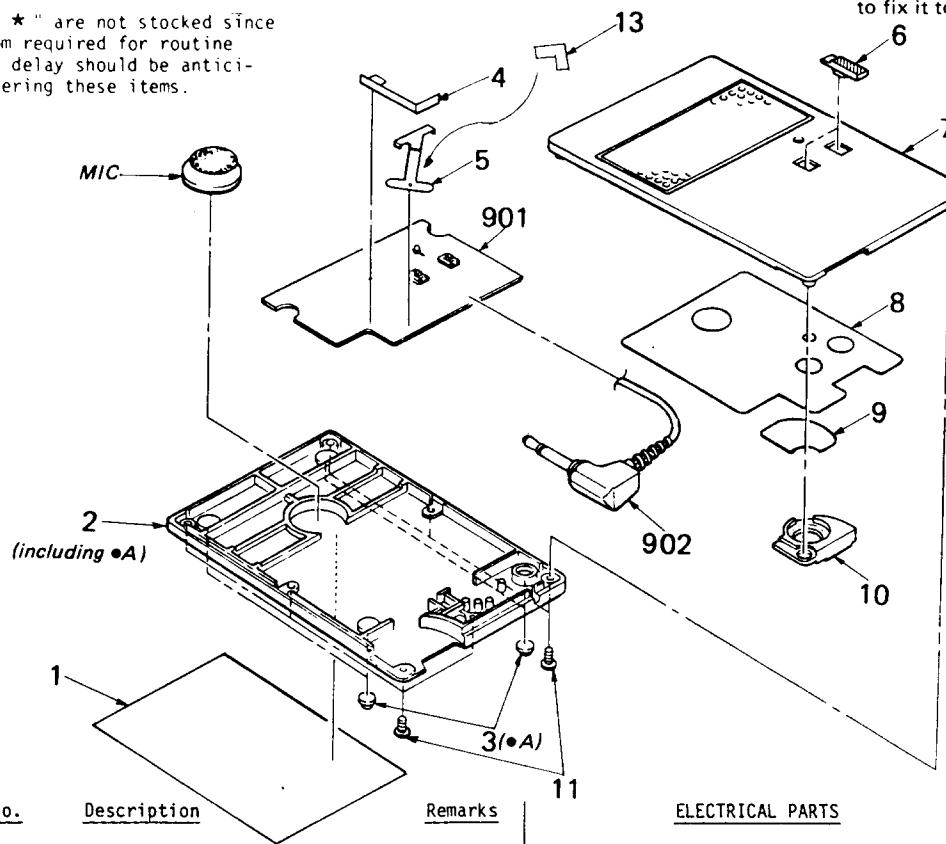
NOTE:

The mechanical parts with no reference number in the exploded views are not supplied.

Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The construction parts of an assembled part are indicated with a collation number in the remark column.

Note: Apply epoxy glue to the switch knob to fix it to the switch.



No.	Part No.	Description	Remarks
1	2-536-547-01	HEET, REAR	
2	X-2536-507-1	CASE ASSY., REAR	
3	*2-535-332-01	FOOT, RUBBER	
4	2-536-545-01	TERMINAL, PLUS	
5	2-536-546-01	TERMINAL, MINUS	
6	2-536-544-01	KNOB, SWITCH	
7	X-2536-506-1	CASE ASSY., FRONT	
8	2-536-549-01	PLATE, SHIELD	
9	2-536-548-01	TERMINAL, BATTERY ASSIST	
10	2-536-543-01	HOLDER, BATTERY	
11	4-887-321-11	SCREW (B1.7)(G), TAPPING	
12	*2-535-328-01	LABEL, BATTERY	
13	2-537-825-01	HEET, INSULATING	

ELECTRICAL PARTS

Ref.No.	Part No.	Description	Value	Tolerance	Unit
901	1-619-569-11	PC BOARD			
902	1-558-031-11	CORD, MIC (DIA. 1.5) (1 CORE)			
C1	1-135-072-21	TANTAL. CHIP 0.22MF	20%	35V	
C2	1-135-070-00	TANTAL. CHIP 0.1MF	20%	35V	
C3	1-163-117-00	CERAMIC CHIP 100PF	10%	50V	
C4	1-163-117-00	CERAMIC CHIP 100PF	10%	50V	
C5	1-135-096-21	TANTAL. CHIP 4.7MF	20%	10V	
C6	1-163-019-00	CERAMIC CHIP 0.0068MF	10%	50V	
C7	1-135-072-21	TANTAL. CHIP 0.22MF	20%	35V	
C8	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V	
C9	1-135-104-00	TANTAL. CHIP 10MF	20%	4V	
D1	8-719-104-37	DIODE SR506D			
D2	8-719-100-03	DIODE 1S2835			
MIC	8-814-222-00	MICROPHONE C-1021			
Q1	8-729-271-22	TRANSISTOR 2SC2712G			
Q2	8-729-271-22	TRANSISTOR 2SC2712G			
R1	1-216-049-00	METAL CHIP 1K 5%			1/10W
R2	1-216-065-00	METAL CHIP 4.7K 5%			1/10W
R3	1-216-107-00	METAL CHIP 270K 5%			1/10W
R4	1-216-069-00	METAL CHIP 6.8K 5%			1/10W
R5	1-216-051-00	METAL CHIP 1.2K 5%			1/10W
R6	1-216-059-00	METAL CHIP 2.7K 5%			1/10W
R7	1-216-049-00	METAL CHIP 1K 5%			1/10W
R8	1-216-069-00	METAL CHIP 6.8K 5%			1/10W
R9	1-216-065-00	METAL CHIP 4.7K 5%			1/10W
R10	1-216-073-00	METAL CHIP 10K 5%			1/10W
S1	1-570-711-11	SWITCH, SLIDE (POWER)			
S2	1-570-711-11	SWITCH, SLIDE (MID BOOST)			

Sony Corporation